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PATENTNOV 15 2005 Attorney Reference Number 7228-70063-01
Application Number 10/616,122Claims

1. (original) A method of treating diseased cutaneous and sub-cutaneous tissue having symptoms of lipodermatosclerosis with laser radiation, the diseased cutaneous and subcutaneous tissue treatment method comprising the steps of:
 - A. exposing the diseased cutaneous and subcutaneous tissue to laser radiation absorbable by hemoglobin, with at least a substantial portion of the laser radiation penetrating said diseased cutaneous and subcutaneous tissue to a depth exceeding 4.5 millimeters below the skin surface on said diseased cutaneous tissue, said exposing of said laser radiation being for a period of time sufficient to damage hemoglobin in the diseased cutaneous and subcutaneous tissue through said depth exceeding 4.5 millimeters below said skin surface; and
 - B. waiting a period of time whereby healing may take place in the diseased cutaneous and subcutaneous tissue,
whereby lipodermatosclerosis symptoms in the diseased cutaneous and subcutaneous tissue may be relieved.
2. (original) The diseased cutaneous and subcutaneous tissue treatment method of claim 1 in which said substantial portion of said laser radiation penetrate said diseased cutaneous and subcutaneous tissue to a depth exceeding 5.5 millimeters below said skin surface and wherein said exposing of said laser radiation is for a period of time sufficient to damage hemoglobin in

the diseased cutaneous and subcutaneous tissue through said depth exceeding 5.5 millimeters below said skin surface.

3. (currently amended) The diseased cutaneous and subcutaneous tissue treatment method of claim 1 ~~also including~~further comprising step C: repeating steps A and B.

4. (currently amended) The diseased cutaneous and subcutaneous tissue treatment method of claim 3 ~~also includes~~further comprising step D: again repeating at least step A.

5. (currently amended) The diseased cutaneous and subcutaneous tissue treatment method of claim 2 ~~also including~~further comprising step C: repeating steps A and B.

6. (currently amended) The diseased cutaneous and subcutaneous tissue treatment method of claim 5 ~~also includes~~further comprising step D: again repeating at least step A.

7. (original) The diseased cutaneous and subcutaneous tissue treatment method of claim 1 in which step A is conducted non-invasively.

8. (original) The diseased cutaneous and subcutaneous tissue treatment method of claim 2 in which step A is conducted non-invasively.

9. (original) The diseased cutaneous and subcutaneous tissue treatment method of claim 4 in which step A is conducted non-invasively.

10. (original) The diseased cutaneous and subcutaneous tissue treatment method of claim 6 in which step A is conducted non-invasively.

11. (currently amended) A method of treating a patient having lipodermatosclerosis in a diseased area on the patient's leg, the lipodermatosclerosis treatment method including comprising the steps of:

A. exposing the diseased area to multiple wavelengths of laser radiation including by:

- (i) exposing the diseased area with one laser having at least one laser wavelength penetrating the diseased area to a relatively shallow depth; and
- (ii) exposing the diseased area with another laser having at least another laser wavelength penetrating the diseased are to a relatively deeper depth than the relatively shallow depth of the one laser; and

B. then waiting a period of time for the diseased area to heal from the exposing step A above.

12. (original) The lipodermatosclerosis treatment method of claim 11 wherein the one laser wavelength is absorbed by oxygenated hemoglobin.

13. (original) The lipodermatosclerosis treatment method of claim 12 wherein said another laser wavelength is absorbed by de-oxygenated hemoglobin.

14. (cancelled)

15. (original) The lipodermatosclerosis treatment method of claim 11 wherein the one laser wavelength is absorbed by melanin.

16. (original) The lipodermatosclerosis treatment method of claim 14 wherein said another laser wavelength is absorbed by melanin.

17. (currently amended) The lipodermatosclerosis treatment method of claim 11 also includingfurther comprising step C: after completing step B repeating step A at least once.

18. (currently amended) The lipodermatosclerosis treatment method of claim 13 also includingfurther comprising step C: after completing step B repeating step A at least once.

19. (currently amended) The lipodermatosclerosis treatment method of claim 16 also includingfurther comprising step C: after completing step B repeating step A at least once.

20. (currently amended) The lipodermatosclerosis treatment method of claim 17 also includingfurther comprising step D: after completing step C again repeating step A.

21. (currently amended) The lipodermatosclerosis treatment method of claim 19 also includingfurther comprising step D: after completing step C again repeating step A.

22. (currently amended) A method of treating a patient having lipodermatosclerosis in a diseased area on the patient, the lipodermatosclerosis treatment method comprising including the steps of:

- A. exposing the diseased area to multiple wavelengths of laser radiation including by:
 - i. exposing the diseased area with a first laser having a first laser wavelength absorbed by oxygenated hemoglobin and melatonin;
 - ii. exposing the diseased area with a second laser having a second laser wavelength absorbed by deoxygenated oxygenated hemoglobin; and

B. then waiting a period of time for healing to take place in the diseased area;
whereby at least lipodermatosclerosis symptoms may be reduced in the diseased area.

23. (currently amended) The lipodermatoscleroris treatment method of claim 22 also including further comprising as step C: after step B repeating step A at least once.

24. (currently amended) The lipodermatosclerosis treatment method of claim 23 wherein Step C also includes further comprises waiting a period of time for healing to take place in the diseased area and then repeating step A at least once again.

25. (original) The lipodermatosclerosis treatment method of claim 22 wherein the first laser wavelength is 532 nm and the second laser wavelength is 1064 nm.

26. (original) The lipodermatosclerosis treatment method of claim 23 wherein the first laser wavelength is 532 nm and the second laser wavelength is 1064 nm.

27. (original) The lipodermatosclerosis treatment method of claim 24 wherein the first laser wavelength is 532 nm and the second laser wavelength is 1064 nm.

28. (currently amended) A method of treating a patient having indurated tissue, the indurated tissue treatment method includingcomprising: the step A of exposing the indurated tissue with laser radiation having a first laser wavelength absorbed by oxygenated hemoglobin molecules, whereby the oxygenated hemoglobin molecules may become heated; and

exposing the indurated tissue with laser radiation having a second laser wavelength absorbed by deoxygenated hemoglobin molecules.

29. (currently amended) The indurated tissue treatment method of claim 28 also includingfurther comprising: the step B of waiting for a period of time for healing of the indurated tissue; and and then C re-exposing the indurated sub-cutaneous tissue with laser radiation of the first wavelength.

30-32. (cancelled)

33. (original) The indurated tissue treatment method of claim 28 in which the treatment is non-invasive.

34. (currently amended) The indurated tissue treatment method of claim 5232 in which the treatment is non-invasive.

35. (currently amended) A method of treating a patient having skin with excessive fluid weeping, the weeping skin treatment method comprising:including the step A of exposing the weeping skin with laser radiation having a first laser wavelength absorbed by oxygenated hemoglobin molecules, whereby the oxygenated hemoglobin molecules may become damaged to a degree that stimulates healing; and
exposing the weeping skin with laser radiation having a second laser wavelength
absorbed by deoxygenated hemoglobin molecules.

36. (currently amended) The weeping skin treatment method of claim 35 further comprising:
also including the step B of waiting for a period of time for healing of the weeping skin;
and tissue exposed in Step A and then C
re-exposing the weeping skin with laser radiation of the first laser wavelength.

37-39 (cancelled).

40. (original) The weeping skin treatment method of claim 35 in which the treatment method is non-invasive.

41. (currently amended) The weeping skin treatment method of claim 4935 in which the treatment method is non-invasive.

42. (currently amended) The weeping skin treatment method of claim 5040 in which the treatment method is non-invasive.
43. (original) A method of treating diseased cutaneous and sub-cutaneous tissue having symptoms of lipodermatosclerosis with electromagnetic radiation, the diseased cutaneous and subcutaneous tissue treatment method comprising the steps of:
- A. exposing the diseased cutaneous and subcutaneous tissue to electromagnetic radiation with at least a substantial portion of the electromagnetic radiation penetrating said diseased cutaneous and subcutaneous tissue to a depth exceeding 4.5 millimeters below the skin surface on said diseased cutaneous tissue, said exposing of said electromagnetic radiation being for a period of time sufficient to damage a component in the diseased cutaneous and subcutaneous tissue through said depth exceeding 4.5 millimeters below said skin surface; and
- B. then waiting a period of time whereby healing may take place in the diseased cutaneous and subcutaneous tissue,
whereby a lipodermatosclerosis symptom in the diseased cutaneous and subcutaneous tissue may be relieved.
44. (currently amended) The treatment method of claim 43 wherein the exposure of step A penetrates said diseased cutaneous and subcutaneous tissue to a depth exceeding at least 5.5 millimeters below the skin surface on said diseased cutaneous tissue.

45. (original) The treatment method of claim 43 wherein the exposure causes substantial damage to at least a portion of hemoglobin in the penetrated cutaneous and subcutaneous tissue.

46. (original) The treatment method of claim 44 wherein the exposure causes substantial damage to at least a portion of hemoglobin in the penetrated cutaneous and subcutaneous tissue.

47. (original) The treatment method of claim 46 wherein the exposure causes substantial damage to at least a portion of melanin in the penetrated cutaneous tissue.

48. (original) The treatment method of claim 47 wherein exposure is applied non-invasively.

49. (new) The weeping skin treatment method of claim 35 wherein exposing the weeping skin with laser radiation having a first laser wavelength and exposing the weeping skin with laser radiation having a second wavelength occur at least substantially simultaneously.

50. (new) The weeping skin treatment method of claim 35 wherein exposing the weeping skin with laser radiation having a first laser wavelength and exposing the weeping skin with laser radiation having a second wavelength occur sequentially.

51. (new) The weeping skin treatment method of claim 36 further comprising re-exposing the weeping skin with laser radiation of the second laser wavelength.

52. (new) The indurated tissue treatment method of claim 28 wherein exposing the indurated tissue with laser radiation having a first wavelength and exposing the indurated tissue with laser radiation having a second wavelength occur at least substantially simultaneously.

53. (new) The indurated tissue treatment method of claim 28 wherein exposing the indurated tissue with laser radiation having a first wavelength and exposing the indurated tissue with laser radiation having a second wavelength occur sequentially.

54. (new) The indurated tissue treatment method of claim 29, further comprising re-exposing the indurated tissue with laser radiation of the second laser wavelength.